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U.S. Appln. No. 10/684,623
Amendment Dated May 6, 2004
Reply to Office Action of Feb. 10, 2004
Docket No. 5853-319

REMARKS/ARGUMENTS

These remarks are submitted in response to the office action dated February 10, 2004 (Office Action). As this response is timely filed within the shortened statutory period for response, no fee is believed due.

In paragraph 2, claims 1 and 15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,922,468 to Menezes (Menezes). In paragraph 3, claims 1-4, 9-13, 15, and 22-25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,563,849 to Hall *et al.* (Hall). In paragraph 4, claims 1-4, 6-13, 15-17, and 19-25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,168,473 to Parra (Parra). In paragraph 5, claim 14 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,377,163 to Simpson (Simpson). In paragraph 6, claim 14 also has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication 2002/0151514 to Sargent (Sargent).

Applicants have amended claims 1 and 13-15 to clarify the nature of the present invention. Claims 2, 3, 9, and 16 have been cancelled. In light of cancelled claims 3 and 16, claims 4 and 17 have been amended to depend claims 1 and 15 respectively. Further, claims 26-28, which depend from claim 1, have been added. Support for these amendments can be found throughout Applicants' specification. No new matter has been added.

Claims 5 and 18 have been objected to as being dependent upon a rejected base claim. The Examiner has indicated that these claims would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Accordingly, the Applicants have rewritten claims 5 and 18 as suggested. These claims should now be allowable. Accordingly, withdrawal of the objection to claims 5 and 18 is respectfully requested.

Prior to addressing the rejections on the art, a brief review of the Applicants' invention is in order. The Applicants have invented a method, system, and apparatus for detecting and providing warning when particular underwater creatures, such as manatees, are detected. In one embodiment, the invention can include a transducer for receiving at least one vibrational wave that emanates from the creature. The transducer can generate at least one transformed signal responsive to the vibrational wave. A signal processor can be included for processing the

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transformed signal to indicate a presence of a particular type of creature which is disposed in the body of water. The invention also can include an indicator which communicates at least one warning signal responsive to a detection of the creature. The indicator can be mounted above a water line of a structure secured to the bottom of the body of water.

Turning to the rejections on the art, claims 1 and 15 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Menezes. Menezes discloses a method for controlling the population of marine and aquatic species in an area of water. Menezes discloses an active system that transmits acoustic waves through water to control the movements of marine life.

In rejecting claims 1 and 15, column 8, line 25 – column 9, line 8 has been cited. This passage describes the receiver portion of Menezes which monitors the frequencies that are transmitted into the water. As noted, Menezes is active in the sense that acoustic energy is transmitted through the water. The cited portions of Menezes describe how the system monitors the signals that are broadcast through the water.

In contrast, claims 1 and 15, as amended, state that the transducer is passive and receives sounds emanating from the creature. Thus, the Applicants' invention detects noise that originates from the creature. The present invention does not function as an active device that transmits signals through the water and then detects those transmitted and/or reflected signals.

Additionally, claims 1 and 15 state that an indicator is included which communicates a warning signal. The indicator is mounted above a water line of a structure that is secured to the bottom of the body of water. Menezes discloses no such feature. As Menezes does not teach or suggest the Applicants' invention as claimed, withdrawal of the 35 U.S.C. § 102(b) rejection of claims 1 and 15 is respectfully requested.

Claims 1-4, 9-13, 15, and 22-25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Hall. Hall discloses an acoustic tracking system designed to allow scientists and fishermen to follow dolphins and whales without harming or harassing them. The Hall system is mounted on an ocean going vessel.

Regarding claim 1, as Hall is intended to be mounted on an ocean going vessel, Hall does not disclose an indicator that is mounted to a structure that is secured to the bottom of a body of water. Referring to claims 13 and 15, while Hall teaches a system for tracking dolphins, whales,

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and tuna, Hall is silent with respect to manatees. Thus, Hall does not teach or suggest the Applicants' invention as claimed. As such, withdrawal of the 35 U.S.C. § 102(b) rejection of claims 1-4, 9-13, 15, and 22-25 is respectfully requested.

Claims 1-4, 6-13, 15-17, and 19-25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Parra. Parra discloses a system that detects bio-soundwaves from an aquatic animal and further incorporates active sonar. Regarding claim 1, Parra, like the references previously discussed, is intended for use on a water craft. In illustration, column 10, line 63 – column 11, line 3, states that:

The location of the host vessel on the chart is provided by the GPS receiver 205. Fish species is provided by unit 200 in a "fish species" field 209. Land masses 311, island 312, buoy or marker 312, channel indicator 313 are provided by the CD ROM reader 207. The bottom profile and depth beneath the host vessel 302 is provided by the active sonar 206, and depth readings may be compared with those on the chart from the CD ROM 207. (emphasis added)

Thus, unlike the present invention, the indicator portion of Parra is not mounted on a structure that is secured to the bottom of a body of water. Rather, the indicator of Parra is intended to be located within the vessel in which the indicator or display is to be used, i.e. the "host vessel".

Regarding claims 6-7 and 19-20, the Examiner contends that Parra discloses a signal processor having a counter for measuring a number of creature detection occurrences and a number of false creature identification occurrences. In support, the counter 44 of Parra has been cited.

The functionality of the counter 44 is discussed at column 6, lines 27-48 of the Parra specification. As can be seen from this passage, the counter is not intended to count occurrences of creature detections or false creature identifications. Rather, the counter provides pulses on gate circuits which effect the sampling of incoming bio-sounds. As is clear from lines 40-45, the counter controls the sample length of a bio-sound that is obtained, i.e. from 7.5 to 15 seconds. As such, the counter 44 of Parra has nothing to do with counting creature detection occurrences or false creature identification occurrences.

Regarding claims 8 and 21, the Examiner contends that Parra teaches that vibrational waves having a duration of less than a predetermined value can be rejected. In support, column 5, lines 64-68 have been cited. The cited portion teaches only that an adjustable level detector

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can be used by Parra. Claims 8 and 21, however, are not directed to level detection. Rather, these claims are directed to the length of time, or duration, a vibrational wave is detected. Consequently, Parra does not teach or suggest the limitations of claims 8 and 21.

Regarding claims 10-12 and 23-25, column 5, line 65 – column 6, line 25 has been cited for the proposition that Parra teaches the detection of the harmonic frequency content of the signal. While the cited passage states that an active transducer can be driven with a predetermined ultrasonic frequency, the passage includes no discussion of harmonic content of a signal.

Regarding claims 13 and 15, Parra makes no mention of manatees. As Parra does not teach or suggest the Applicants' invention as claimed, withdrawal of the 35 U.S.C. § 102(b) rejection with respect to claims 1-4, 6-13, 15-17, and 19-25 is respectfully requested.

Claim 14 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Simpson. Simpson discloses a system for determining the identity of an aquatic organism. Notably, Simpson discloses an active system where signals are broadcast through the water. The signals that are received and processed are reflections of the broadcast signals. Accordingly, Simpson does not teach or suggest the use of a passive system as is taught by the present invention. Moreover, Simpson includes no teaching or suggestion that sounds from manatees can be identified. As such, withdrawal of the 35 U.S.C. § 102(b) rejection of claim 14 is respectfully requested.

Claim 14 also has been rejected under 35 U.S.C. § 102(b) as being anticipated by Sargent. Sargent suffers from the same deficiency as other references. Specifically, Sargent makes no mention of detecting manatees. Moreover, while Sargent states that the presence of sharks can be detected, Sargent provides little, if any, teaching or suggestion as to how such a task would be accomplished. Sargent merely states that available technologies would be used, but provides no teaching as to how existing technologies would function with one another or be linked to one another to perform the task at hand. For example, Sargent does not indicate whether the system would be passive or active, how sharks would be differentiated from other marine life, or how more dangerous species of shark would be differentiated from less harmful or non-harmful shark species. In short, Applicants do not believe the Sargent reference to be fully

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enabled and, as such, believe that Sargent cannot be used as a reference against the present invention. Accordingly, withdrawal of the 35 U.S.C. § 102(b) rejection of claim 14 is respectfully requested.

The Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. The Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

Date: 5/6/04

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